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Version Control

Date	Author	Change	Reviewed and/or Approved By
2/1/11	Dirk Huggett	Initial Submission to NTIA	DS
5/30/11	Dirk Huggett	Update status and dates (and amounts tied to those dates). Changes highlighted in pink.	DS

1 Summary of Activities

This section provides a summary list of all activities funded under the NTIA SBDD grant for the state of North Dakota.

1.1 List of Projects

Project	Start	Finish	Budget
Initial Map Deployment Project			
Vendor Costs	2/10/2010	9/30/2010	\$814,228
PM Costs	2/10/2010	9/30/2010	\$46,875
ND Map Update	10/1/2010	1/31/2011	\$26,000
March 2011 Data Updates	1/3/2011	3/30/2011	\$33,250
Y2 Map Enhancement	3/1/2011	9/30/2011	\$114,400
Y2 Speed Test	1/3/2011	3/31/2011	\$2,000
Web Map Update Tool	1/3/2011	3/23/2012	\$161,000
AT&T Update	1/3/2011	1/13/2012	\$22,260
Hosting Costs (Y2 Data & App Storage)	1/1/2011	12/30/2011	\$33,600
September 2011 Data Update	7/1/2011	9/30/2011	\$33,250
BB Health/Public Safety Planning	3/1/2011	12/28/2012	\$308,400
Project Planning	3/1/2011	4/29/2011	
Project Kickoff	5/2/2011	5/3/2011	
Current State	5/4/2011	10/31/2011	
Future State	9/1/2011	12/30/2011	
Research	10/31/2011	6/29/2012	
Strategic Plan	5/1/2012	12/28/2012	
Technical Assistance to ND Communities	12/1/2010	7/30/2012	\$225,000
Cell Tower dB update	10/3/2011	3/2/2012	\$45,640
March 2012 Data Updates	1/2/2012	3/30/2012	\$88,333
Y2 Speed Test	1/2/2012	3/30/2012	\$2,000
Direct Measurement-Wireless	1/3/2012	9/24/2012	\$166,320
September 2012 Data Updates	7/2/2012	9/28/2012	\$88,333
Y4 Speed Test	1/2/2013	3/29/2013	\$2,000
March 2013 Data Updates	1/2/2013	3/29/2013	\$88,334
September 2013 Data Updates	7/1/2013	9/30/2013	\$88,333
Y5 Speed Test	1/2/2014	3/31/2014	\$2,000
March 2014 Data Updates	1/2/2014	3/31/2014	\$88,333
September 2014 Data Updates	7/1/2014	9/30/2014	\$88,334
Program Administrator	1/1/2011	1/31/2015	\$342,670
Unallocated Project Management	1/1/2011	12/31/2014	\$239,445

Project	Start	Finish	Budget
Active Updates			\$62,780
Reseller Data	TBD Y3 or later		
Updating Public Source Data	TBD Y3 or later		
Free Public WiFi	TBD Y3 or later		
Pricing	TBD Y3 or later		
Proactive Anchor Complete data Set	TBD Y3 or later		
Major Tech Upgrades	TBD Y3 or later		
Address File	As needed		\$15,000
Map Enhancement Projects	As needed		\$40,000
Other Reporting	As requested		\$40,000
Future Leading Practices	As requested by NTIA		\$152,949
Unallocated Funding*	TBD		\$16,625
Indirect Costs			\$186,394
Total			\$3,664,086

* Unallocated funding is from unused funding in completed projects, i.e. realized cost savings.

1.2 Summary of Estimated Federal drawdown

Total Federal and Match Amounts (Initial and Amended Funds)	
Total Federal Funds	\$3,664,086
Total Match Amount	\$983,327
Year 1	
Total Federal Funds Expended	\$821,689
Total Match Amount Used	\$420,410
Year 2	
Year 2, Quarter 1 (Jan 1- Mar 31, 2011)	
Estimated Federal Drawdown	\$121,173
Estimated Match	\$7,233
Description of Match	GIS Base and Program Director
Year 2, Quarter 2 (Apr 1- Jun 30, 2011)	
Estimated Federal Drawdown	\$362,762
Estimated Match	\$8,428
Description of Match	GIS Base and Program Director
Year 2, Quarter 3 (Jul 1- Sept 30, 2011)	
Estimated Federal Drawdown	\$297,855
Estimated Match	\$8,428
Description of Match	GIS Base and Program Director
Year 2, Quarter 4 (Oct 1- Dec 31, 2011)	
Estimated Federal Drawdown	\$239,247
Estimated Match	\$8,428
Description of Match	GIS Base and Program Director
Year 3	
Year 3, Quarter 1 (Jan 1- Mar 31, 2012)	
Estimated Federal Drawdown	\$163,222
Estimated Match	\$44,059

ND SBDD Detailed Project Plan

Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 3, Quarter 2 (Apr 1- Jun 30, 2012)	
Estimated Federal Drawdown	\$340,673
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 3, Quarter 3 (Jul 1- Sept 30, 2012)	
Estimated Federal Drawdown	\$138,412
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 3, Quarter 4 (Oct 1- Dec 31, 2012)	
Estimated Federal Drawdown	\$208,837
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 4	
Year 4, Quarter 1 (Jan 1- Mar 31, 2013)	
Estimated Federal Drawdown	\$35,066
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 4, Quarter 2 (Apr 1- Jun 30, 2013)	
Estimated Federal Drawdown	\$121,400
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 4, Quarter 3 (Jul 1- Sept 30, 2013)	
Estimated Federal Drawdown	\$33,066
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 4, Quarter 4 (Oct 1- Dec 31, 2013)	
Estimated Federal Drawdown	\$121,399
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 5	
Year 5, Quarter 1 (Jan 1- Mar 31, 2014)	
Estimated Federal Drawdown	\$35,066
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director

Year 5, Quarter 2 (Apr 1- Jun 30, 2014)	
Estimated Federal Drawdown	\$121,399
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 5, Quarter 3 (Jul 1- Sept 30, 2014)	
Estimated Federal Drawdown	\$33,066
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
Year 5, Quarter 4 (Oct 1- Dec 31, 2014)	
Estimated Federal Drawdown	\$121,400
Estimated Match	\$44,059
Description of Match	GIS Infrastructure, K12 staff & infrastructure and Program Director
TBD	
Funds yet to be detail planned	
Estimated Federal Drawdown	\$331,799

2 Data Collection

This section focuses on the state's use, or planned use, of the funds received to perform data collection and display.

2.1 Summary of Data Changes

Below is a summary list of all data changes planned for this program. NTIA originally only funded the 2011 semiannual updates. NTIA funded all other changes with the September 2010 amended grant.

Project	Start	Finish	Budget
March 2011 Data Updates	1/1/2011	3/31/2011	\$33,250
AT&T Update	1/1/2011	1/13/2012	\$22,260
September 2011 Data Update	7/1/2011	9/30/2011	\$33,250
Cell Tower dB update	10/1/2011	3/2/2012	\$45,640
March 2012 Data Updates	1/1/2012	3/31/2012	\$88,333
Direct Measurement-Wireless	4/1/2012	9/24/2012	\$166,320
September 2012 Data Updates	7/1/2012	9/30/2012	\$88,333
March 2013 Data Updates	1/1/2013	3/31/2013	\$88,334
September 2013 Data Updates	7/1/2013	9/30/2013	\$88,333
March 2014 Data Updates	1/1/2014	3/31/2014	\$88,333
September 2014 Data Updates	7/1/2014	9/30/2014	\$88,334

The following are on our list to explore, but we don't intend to determine which, if any, we will implement until after year two.

Project	Start	Finish	Budget
Active Updates			\$62,780
Reseller Data	TBD Y3 or later		

Updating Public Source Data	TBD Y3 or later		
Free Public WiFi	TBD Y3 or later		
Pricing	TBD Y3 or later		
Proactive Anchor Complete data Set	TBD Y3 or later		
Major Tech Upgrades	TBD Y3 or later		
Address File	As needed		\$15,000

2.2 Detailed Project Breakout

Below are the detailed individual projects.

Project Approved in the Initial Award - Budget Year One	
Project Name	Initial Map Deployment Project
Estimated Start and End Date (Year and Quarter)	Start: Year 1, Quarter 1 End: Year 1, Quarter 4
Total Federal Award for this Project	\$861,103
Project Status	Complete
Short Summary	
This project is the initial gathering of required data and development of the map application.	
Year 1	
Yr 1 Estimated Budget Drawdown Amount	\$861,103
Annual Objectives summary	
Completion of project	
Year 1, Quarter 1 (Jan 1 – Mar 31, 2010)	
Primary Milestone(s)	Corresponding Primary Activities
Project Kick Off	-Project Planning Complete
Q1 Federal Reporting	-Q1 reports submitted to NTIA
Year 1, Quarter 2 (Apr 1 – Jun 30, 2010)	
Primary Milestone(s)	Corresponding Primary Activities
April 30 th Data Submission	-Gather public data -Perform wireless drive -Submit NTIA data set
June 1 st Data Submission	-Gather provider data -Submit NTIA data set
Q2 Federal Reporting	-Q2 reports submitted to NTIA
Year 1, Quarter 3 (Jul 1 – Sept 30, 2010)	
Primary Milestone(s)	Corresponding Primary Activities
Map application complete	-Finalize map development
Map live in production	-Develop & install in test and prod environments
September data update	-Submit NTIA data set
Q3 Federal Reporting	-Q3 reports submitted to NTIA
Year 1, Quarter 4 (Oct 1 – Dec 31, 2010)	
Primary Milestone(s)	Corresponding Primary Activities
Project Closeout	Post Implementation Report LPO Closeout Report

Project Approved in the Initial Award - Budget Year One

Project Name	ND Map Update
Estimated Start and End Date (Year and Quarter)	Start: Year 1, Quarter 4 End: Year 2, Quarter 1
Total Federal Award for this Project	\$26,000
Project Status	Complete
Short Summary	
This project is a follow-on update of provider data based on concerns express by the providers regarding their initial data submission. This data will help feed the Spring 2011 NTIA submission.	
Year 1	
Yr 1 Estimated Budget Drawdown Amount	\$0
Annual Objectives summary	
Completion of project	
Year 1, Quarter 4 (Oct 1 – Dec 31, 2010)	
Primary Milestone(s)	Corresponding Primary Activities
Release maps	-Provide census block maps to key providers
November Data Delivery	-Receive provider updates by Nov 5 th -Receive map update from vendor Nov 19 th -Update Map
December Data Delivery	-Receive provider updates by Dec 3 rd -Receive map update from vendor Dec 17 th -Update Map
Year 2	
Yr 2 Estimated Budget Drawdown Amount	\$26,000
Year 2, Quarter 1 (Jan 1 – Mar 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
January Data Delivery	-Receive provider updates by Jan 7 th -Receive map update from vendor Jan 21 st -Update Map
Project Closeout	Post Implementation Report

Project Approved in the Amended Award - Budget Year Two	
Project Name	Y2 Map Enhancements
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 1 End: Year 2, Quarter 2
Total Federal Award for this Project	\$114,400
Project Status	In Progress
Short Summary	
This project is to update the map application and web site. After detailed analysis, this project will come in significantly under budget. The balance will be moved to program reserves to be used if the State ESC and NTIA approves.	
Year 2	
Yr 2 Estimated Budget Drawdown Amount	\$114,400
Annual Objectives summary	
Completion of project	
Year 2, Quarter 1 (Jan 1 – Mar 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Development started	-Project planning complete -Requirements complete -Design complete

Year 2, Quarter 2 (Apr 1 – Jun 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Rerelease of website/application	-Development complete -Testing complete -Released to production
Project Closeout	Post Implementation Report

Project Approved in the Amended Award - Budget Year Two	
Project Name	Speed Test
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 1 End: Year 2, Quarter 1
Total Federal Award for this Project	\$8,000
Project Status	In Progress
Short Summary	
This project will move the Speed test from the vendor environment to the state infrastructure and pay for licensing	
Year 2	
Yr 2 Estimated Budget Drawdown Amount	\$2,000
Annual Objectives summary	
Migrate site to state infrastructure	
Year 2, Quarter 1 (Jan 1 – Mar 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Speed test live on state Equipment	-Environments created and product installed on state infrastructure -Process in place for vendor to access data for verification activities
Project Closeout	Post Implementation Report
Year 3	
Yr 2 Estimated Budget Drawdown Amount	\$2,000
Annual Objectives summary	
Maintain site	
Year 3, Quarter 1 (Jan 1 – Mar 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Speed test live on state Equipment	-Product license renewal/product updated -Annual infrastructure payment
Year 4	
Yr 2 Estimated Budget Drawdown Amount	\$2,000
Annual Objectives summary	
Maintain site	
Year 4, Quarter 1 (Jan 1 – Mar 31, 2013)	
Primary Milestone(s)	Corresponding Primary Activities
Speed test live on state Equipment	-Product license renewal/product updated -Annual infrastructure payment
Year 5	
Yr 2 Estimated Budget Drawdown Amount	\$2,000
Annual Objectives summary	
Maintain site	
Year 5, Quarter 1 (Jan 1 – Mar 31, 2014)	
Primary Milestone(s)	Corresponding Primary Activities
Speed test live on state Equipment	-Product license renewal/product updated

	-Annual infrastructure payment
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Project Approved in the Amended Award - Budget Year Two	
Project Name	Y2 Data Updates
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 1 End: Year 2, Quarter 3
Total Federal Award for this Project	\$66,500
Project Status	Phase one Complete
Short Summary	
This project will provide data updates to NTIA on required timelines.	
Year 2	
Yr 2 Estimated Budget Drawdown Amount	\$66,500
Annual Objectives summary	
Completion of project	
Year 2, Quarter 1 (Jan 1 – Mar 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
March data update	-Gather updated data from providers -Submit NTIA data set
Year 2, Quarter 2 (Apr 1 – Jun 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
No activities	
Year 2, Quarter 3 (Jul 1 – Sept 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
September data update	-Gather updated data from providers -Submit NTIA data set
Year 2, Quarter 4 (Oct 1 – Dec 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Project Closeout	Post Implementation Report

Project Approved in the Amended Award - Budget Year Two	
Project Name	Web Map Update Tool
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 1 End: Year 2, Quarter 4
Total Federal Award for this Project	\$161,000
Project Status	In Progress
Short Summary	
<p>The State will build a web based data application for maintaining and creating broadband data. The application will allow for Providers and Anchor Institutions to update both spatial and attribute data directly using a simple web interface. The application will also allow for the State to use administrative level staff for broadband updates if the Providers do not wish to use the web application to maintain their own data.</p> <p>The state of North Dakota is coordinating with Montana on the development of this application and sharing costs. The states will split some costs incurred and some will be State specific.</p>	
Year 2	
Yr 2 Estimated Budget Drawdown Amount	\$111,000
Annual Objectives summary	
Completion of project development	
Year 2, Quarter 1 (Jan 1 – Mar 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities

Complete Project Plan	-Meet with State staff to review application requirements, core technologies, and deployment strategy.
Year 2, Quarter 2 (Apr 1 – Jun 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Begin Prototype construction	-Prototype development
Year 2, Quarter 3 (Jul 1 – Sept 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Release Prototype	-Develop prototype of application with core functionality. Review with State.
Begin Application Development	-Beta application Development
Year 2, Quarter 4 (Oct 1 – Dec 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Complete Beta Development	-Application Design\Build
Preliminary User Acceptance Testing	-State (and internal) testing of application. Application modifications and bug fixes completed.
Initial Deployment	-Initial deployment and testing on State servers.
Final User Acceptance Testing	-State (and internal) testing of application. Final application modifications and bug fixes completed.
Year 3	
Yr 2 Estimated Budget Drawdown Amount	\$44,000
Annual Objectives summary	
Completion of project	
Year 3, Quarter 1 (Jan 1 – Mar 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
User Training Complete	-Perform User Training
Project Closeout	-Post Implementation Report

Project Approved in the Amended Award - Budget Year Two	
Project Name	AT&T Update
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 1 End: Year 3, Quarter 1
Total Federal Award for this Project	\$22,260
Project Status	In Progress
Short Summary	
North Dakota is going through a major provider change for cellular service. As part of the Verizon-Alltel merger, AT&T is taking over the Alltel infrastructure in the state and deploying its own technology. The state plans to work closely with AT&T in mapping out its coverage. The project to add this data set is from January 2011 through January 2012 with the intent that this data will be part of the March 2012 NTIA data upload.	
Year 2	
Yr 2 Estimated Budget Drawdown Amount	\$20,034
Annual Objectives summary	
Gather and process new data	
Year 2, Quarter 1 (Jan 1 – Mar 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Complete Project Plan	-Meet with State staff to review requirements and deployment plan
Begin data collection	-collect data from AT&T -collect data from public sources

Year 2, Quarter 2 (Apr 1 – Jun 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Continued data collection	-collect data from AT&T -collect data from public sources
Year 2, Quarter 3 (Jul 1 – Sept 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Data collection complete	-collect data from AT&T -collect data from public sources
GIS database updated	-AT&T Cell Tower locations in GIS database
Year 2, Quarter 4 (Oct 1 – Dec 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
GIS service area layer deployed	-AT&T service areas in GIS database
NTIA Update	-Data included in the Sept 2011 NTIA update
Year 3	
Yr 3 Estimated Budget Drawdown Amount	\$2,226
Annual Objectives summary	
Completion of project	
Year 3, Quarter 1 (Jan 1 – Mar 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Final Acceptance	-State review & approval
Project Closeout	-Post Implementation Report

Project Approved in the Amended Award - Budget Year Two	
Project Name	Cell Tower dB Updates
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 4 End: Year 3, Quarter 1
Total Federal Award for this Project	\$45,640
Project Status	Not Started
Short Summary	
<p>Gather and verify the most complete cell tower database possible with specific ownership/equipment identified. Work will be completed by additional research of public sources, such as the ASR database, local government permitting to identify tower sites not required for listing in the FCC database criteria, and ownership tracking on the FCC site. Exploration of maximum likelihood geospatial analysis with wireless signal strength data from field collected data will also be utilized. Some elements of this task may be integrated with fieldwork required for direct measurement of wireless data. After additional analysis, the timeline was significantly shortened without changing scope.</p>	
Year 2	
Yr 2 Estimated Budget Drawdown Amount	\$15,390
Annual Objectives summary	
Begin project	
Year 2, Quarter 4 (Oct 1 – Dec 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Project Kickoff	-Project plan complete
Document current cell tower source data and references	-Report with specific references to source data, documents, sites, and field efforts used to develop cell tower database.
Begin data gathering	Data gathering activities
Intermediate cell tower geodatabase deployed in production	GIS database of cell towers found from existing data sources.
Year 3	

Yr 3 Estimated Budget Drawdown Amount	\$30,250
Annual Objectives summary	
Completion of project	
Year 3, Quarter 1 (Jan 1 – Mar 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Complete data gathering	Continued data gathering activities
Cell tower geodatabase deployed in production	GIS database of cell towers from existing data sources and those developed through field investigation. . Database will have appropriate attributes to use for building propagation models by provider.
Project Closeout	Post Implementation Report

Project Approved in the Amended Award - Budget Year Three	
Project Name	Y3 Data Updates
Estimated Start and End Date (Year and Quarter)	Start: Year 3, Quarter 1 End: Year 3, Quarter 3
Total Federal Award for this Project	\$176,666
Project Status	Not Started
Short Summary	
This project will provide data updates to NTIA on required timelines. Will include focused providers updates. Providers will be targeted for focused, detailed update of coverage and facilities. Work will be accomplished through direct meetings and web and GIS enabled conference calls. For these providers every effort will be made to identify and remove impediments to full project participation. Focus will be on making it as easy as possible for the providers to provide mapping information and identifying outputs that provide value to them if they participate more fully.	
Year 3	
Yr 3 Estimated Budget Drawdown Amount	\$176,666
Annual Objectives summary	
Completion of project	
Year 3, Quarter 1 (Jan 1 – Mar 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
March data update	-Gather updated data from providers -Submit NTIA data set
Provider (1, 2, 3) extended dataset update	-Three providers targeted to provide a more complete dataset.
Year 3, Quarter 2 (Apr 1 – Jun 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
No activities	
Year 3, Quarter 3 (Jul 1 – Sept 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
September data update	-Gather updated data from providers -Submit NTIA data set
Provider (4, 5, 6) extended dataset update	-Three providers targeted to provide a more complete dataset.
Year 3, Quarter 4 (Oct 1 – Dec 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Project Closeout	Post Implementation Report

Project Approved in the Amended Award - Budget Year Three	
Project Name	Direct Measurement Wireless
Estimated Start and End Date (Year and Quarter)	Start: Year 3, Quarter 2 End: Year 3, Quarter 3
Total Federal Award for this Project	\$166,320
Project Status	Not Started
Short Summary	
During the initial mapping project we conducted a direct measurement mapping effort, using GPS enabled cell phones and driving over 4000 miles of Interstates and highways in the state. We plan on conducting a revised direct measurement exercise in year 3. Areas throughout the State will be driven (at least 4000 miles). Driving routes will be optimized to collect data in areas of uncertainty or where new construction of cell towers has taken place. Data collected will include data transmission speeds and signal strength by provider\technology. In some cases field crews will also map and verify cell tower locations. This data would be included in the September 2012 NTIA Update.	
Year 3	
Yr 3 Estimated Budget Drawdown Amount	\$166,320
Annual Objectives summary	
Completion of project	
Year 3, Quarter 2 (Apr 1 – Jun 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Project Kickoff	-Project plan complete
Driving activities in complete	-Perform all driving activities -Perform any site visits required
Year 3, Quarter 3 (Jul 1 – Sept 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
September data update	-Include results in NTIA data set
Project Closeout	Post Implementation Report

Project Approved in the Amended Award - Budget Year Four	
Project Name	Y4 Data Updates
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 1 End: Year 2, Quarter 1
Total Federal Award for this Project	\$176,666
Project Status	Not Started
Short Summary	
This project will provide data updates to NTIA on required timelines. Will include focused providers updates. Providers will be targeted for focused, detailed update of coverage and facilities. Work will be accomplished through direct meetings and web and GIS enabled conference calls. For these providers every effort will be made to identify and remove impediments to full project participation. Focus will be on making it as easy as possible for the providers to provide mapping information and identifying outputs that provide value to them if they participate more fully.	
Year 3	
Yr 3 Estimated Budget Drawdown Amount	\$176,666
Annual Objectives summary	
Completion of project	
Year 3, Quarter 1 (Jan 1 – Mar 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
March data update	-Gather updated data from providers -Submit NTIA data set

Provider (7, 8, 9, 10) extended dataset update	-Three providers targeted to provide a more complete dataset.
Year 3, Quarter 2 (Apr 1 – Jun 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
No activities	
Year 3, Quarter 3 (Jul 1 – Sept 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
September data update	-Gather updated data from providers -Submit NTIA data set
Year 3, Quarter 4 (Oct 1 – Dec 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Project Closeout	Post Implementation Report

Other Funding Approved in the Amended Award	
Funding Name	Project management
Total Federal Award for this Project	\$239,445
Short Summary	
The state employs extensive project management (PM) for technology projects and requires Large Project Oversight for any projects over \$250,000. (Note: vendor project management will be included in each of the above projects and not included in this section.) Funding has been reserved for the state to manage the projects in the program and pay for any oversight fees required. As projects enter their planning phase, funds from this line items will be moved to those projects to cover state PM work based on standard estimation processes.	

The state has not planned in detail the remaining projects at this time. The high-level plan is below. The state will review this list in the fall of each year to determine what if any projects the state will add to the following year and the state will update this plan at that time.

Other Funding Approved in the Amended Award	
Project Name	Active Updates
Total Federal Award for this Project	\$62,780
Sub-Project Name	Active Updates – Reseller Data
Estimated Start and End Date (Year and Quarter)	TBD Y3 or later
Total Federal Award for this Sub-Project	\$TBD
Short Summary	
The state does not anticipate spending extensive effort to identify and process reseller data in the state. We consistently tried to distinguish between resellers not meeting the provider definition in the year 1 mapping effort to avoid confusion in the data modeling results. We did, however, identify a number of resellers during year 1. We recognize the value and convenience of this data for customers. The state plans a limited development of reseller data, which we propose to map as a standalone feature class of point address locations.	
Sub-Project Name	Active Updates – Updating Public Source Data
Estimated Start and End Date (Year and Quarter)	TBD Y3 or later
Total Federal Award for this Sub-Project	\$TBD
Short Summary	
Integration of public data sources has been an integral part of our methodology for broadband mapping throughout the year 1 mapping effort. In maintenance periods in years 2-5 we propose continuing this effort and associated verification through reliability and validity codes and work flow as described in the methods above. We will apply lessons learned in the initial mapping effort.	

Sub-Project Name	Active Updates – Free Public WiFi
Estimated Start and End Date (Year and Quarter)	TBD Y3 or later
Total Federal Award for this Sub-Project	\$TBD
Short Summary	
The state sees promise in mapping this given the return on investment for this technology in portions of urban areas, such as downtown development districts, business parks, university campuses and in small rural communities prevalent in all geographic regions of the state.	
Sub-Project Name	Active Updates – Pricing
Estimated Start and End Date (Year and Quarter)	TBD Y3 or later
Total Federal Award for this Sub-Project	\$TBD
Short Summary	
The state collected some pricing data during initial mapping project, but it was non-systematic and opportunistic. The state would update this using a standardized and systematic research of public data sources, including web research, advertisements through local media sources, provider interviews, and purchasing of MediaMark consumer expenditure data from ESRI consumer segmentation data for price points per tier, required bundles, equipment rebates or costs and incentive offers.	
Sub-Project Name	Active Updates – Proactive Anchor complete data set
Estimated Start and End Date (Year and Quarter)	TBD Y3 or later
Total Federal Award for this Sub-Project	\$TBD
Short Summary	
Collecting all data elements for Anchor institutions has proved difficult due to the number of institutions and their understanding of their Internet connectivity. The state will make a proactive effort of contacting both individual institutions and the umbrella organizations they are part of to increase the completeness and accuracy of this data set.	
Sub-Project Name	Active Updates – Major Tech Upgrades
Estimated Start and End Date (Year and Quarter)	TBD Y3 or later
Total Federal Award for this Sub-Project	\$TBD
Short Summary	
As funding becomes available from things like BTOP grants and acquisitions, major technology changes could occur with current vendors. The state would like the ability to incorporate those significant changes into our mapping data.	
Project Name	Address File
Total Federal Award for this Project	\$15,000
Estimated Start and End Date (Year and Quarter)	As needed
Short Summary	
The state recognizes that as time passes different data sources become better. The state has funding set aside to allow us to have the ability to change which commercially or publicly available address files we use as we find more accurate data for our state. The map the state is currently developing uses Google's geocoding. We have found that data less than perfect for our state. So we anticipate that we will want to change the geocoding address source once in year two and two additional times during the grant period. The state doesn't expect to plan for the year two update until a better dataset is determined. The total amount of funding for this is \$5,000 per event or \$15,000 total.	
Project Name	Map Enhancement Projects
Total Federal Award for this Project	\$40,000
Estimated Start and End Date (Year and Quarter)	As needed
Short Summary	
There are typically a number of enhancements that are desired after the initial rollout of an application as well as standard application maintenance. Expected maintenance activities include insuring compatibility with future browser releases, updating web, GIS, and database servers, modifying application to address revisions to NTIA data model, etc.	

Project Name	Other Reporting
Total Federal Award for this Project	\$40,000
Estimated Start and End Date (Year and Quarter)	As requested
Short Summary	
<p>The state recognizes that both the NTIA formatted data and many data elements used to produce it could be of significant value to other state agencies such as the Department of Commerce and the Public Service Commission. The State reserved funding to provide consulting, analysis, reporting, and map development services to State agencies that exceed what is available from basic web queries. This funding is to pay for development of those reports (using non-confidential or aggregate information). This will occur as they are requested.</p> <p>Examples of possible products include –</p> <ul style="list-style-type: none"> • Create a report of underserved areas summarized by County or Zip Code. • Create a map of areas with a population density above 100 people per square mile that does not have wireless broadband access. • Create a map and a list of anchor institutions with broadband connections that are less than or equal to 2 Mbps. 	
Project Name	Future Leading Practices
Total Federal Award for this Project	\$152,949
Estimated Start and End Date (Year and Quarter)	As requested by NTIA
Short Summary	
<p>As the program matures, NTIA will identify leading practices that they will want all states to adopt. This funding is to ensure the state will be able to comply with those requests.</p>	
Project Name	Unallocated Funding*
Total Federal Award for this Project	\$16,625
Estimated Start and End Date (Year and Quarter)	TBD
Short Summary	
<p>Unallocated funding is from unused funding in completed projects, i.e. realized cost savings. The state intends to use these funds as a Management Reserve fund to pay for unanticipated costs or projects for the program. The state will complete a project change order for any unanticipated costs in an existing project. The state will update this document and receive NTIA approval for any project utilizing these funds. The state feels this will adequately control these program funds.</p>	

2.3 Statewide Data Users

Currently no entities (e.g. state and local government, business, non-profit organizations) are using the data collected because we did not officially release the application to the public until early January 2011. The delay was due to the state allowing providers to provide updated data to the map based upon their initial review of the map.

Below is the list of entities (e.g. state and local government, business, non-profit organizations) that plan to use the data collected.

- Department of Commerce
- Public Service Commission
- Department of Emergency Services
- Information Technology Department

3 Non-data Program Goals

This section focuses on funds North Dakota will expend in areas excluding data collection & development.

3.1 Detailed Project Plans

Project Approved in the Initial Award - Budget Year Two	
Project Name	Broadband Health/Public Safety Planning Project (BB Strategic Planning)
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 1 End: Year 3, Quarter 4
Total Federal Award for this Project	\$308,400
Project Status	Not Started
Short Summary	
<p>This project remains the same as described in the initial grant request. The state plans no changes. By leveraging the organizational structure and relationships that are presently in existence for The state's WAN infrastructure (STAGEnet), the State of North Dakota will explore how STAGEnet can be utilized to either directly or indirectly to provide the broadband requirements for additional anchor institutions, specifically, public safety institutions and healthcare and medical institutions.</p> <p>ITD will leverage existing organizational structures to facilitate coordination among the various communities. The process for both public safety and health care will be similar. The role of the team would be to perform a needs analysis, evaluation options and to develop a strategic plan to take forward to ensure all the anchor institutions within STAGEnet, the public safety and healthcare communities have the broadband resources available to meet their needs.</p> <p>The needs analysis phase will start with a review of current usage of broadband services and the applications that are in place today to establish a baseline. The analysis would continue to document current demands as well as attempt to forecast both short term and long-term needs anticipated within each community. Upon identification of all existing and future anticipated requirements, the team will prioritize the requirements and will correlate what needs to happen to achieve those priorities.</p> <p>The team will then research and evaluate potential solutions. The solutions may entail technology solutions, business models, operational structures and deployment plans. STAGEnet has been successful for many years by partnering with the private sector and anchor tenants to drive technology and solutions that not only satisfy the needs of the anchor tenants but also create and establish opportunities business and citizens are also able to benefit from.</p> <p>Finally, a strategic plan will be created providing a published document that all parties can operate from to implement the goals and objectives identified in the planning process. The plan would be helpful in securing whatever resources necessary to implement the plan and provide a mechanism to ensure all anchor tenants within the state are proceeding with a common goal in terms of broadband infrastructure and usage.</p>	
Year 2	
Yr 2 Estimated Budget Drawdown Amount	\$189,019
Annual Objectives summary	
Develop Current and Future States	
Year 2, Quarter 1 (Jan 1 – Mar 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Project Planning	-Begin project planning
Year 2, Quarter 2 (Apr 1 – Jun 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Project Kickoff	-Project plan complete -Kickoff meeting
Current State started	-Initial meetings held for current state
Year 2, Quarter 3 (Jul 1 – Sept 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Draft of Current State under review	-Identification activities complete -Current State document drafted
Begin Future State	-Initial meetings held for future state
Year 2, Quarter 4 (Oct 1 – Dec 31, 2011)	

Primary Milestone(s)	Corresponding Primary Activities
Finalize Current State	-Current State approved
Finalize Future State	-Future State approved
Begin Research	-Initial research conducted
Year 3	
Yr 3 Estimated Budget Drawdown Amount	\$119,381
Annual Objectives summary	
Completion of project	
Year 3, Quarter 1 (Jan 1 – Mar 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Summary Research Report	-A summary report on the research conducted so far is presented to the sponsor
Year 3, Quarter 2 (Apr 1 – Jun 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Research Complete	-A final research report with key recommendations is submitted.
Strategic Plan Kickoff	Begin development of the Strategic Plan
Year 3, Quarter 3 (Jul 1 – Sept 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Initial Strategic Plan Draft	Draft of the Strategic Plan
Year 3, Quarter 4 (Oct 1 – Dec 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Strategic Plan Finalized	Strategic Plan approved
Project Closeout	Post Implementation Report

Project Approved in the Amended Award - Budget Year Two	
Project Name	Technical Assistance to Communities
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 1 End: Year 3, Quarter 3
Total Federal Award for this Project	\$225,000
Project Status	In Progress
Short Summary	
<p>EduTech has successfully delivered professional development to ND's K-12 educators for nearly twenty years. The state will extend that professional development to adult/community education programs in ND communities via teacher/administrator teams who will be prepared by participating in EduTech's workshops. The sole purpose of the local school team is to increase community members' knowledge and use of Internet and other broadband resources through instruction and technical assistance.</p> <p>Sub grants will be awarded to local teams of three teachers and one administrator per school district (TA teams) who will deliver workshops and technical assistance to community members through their adult education program. Each TA team will participate in four EduTech workshops (16 hours) to prepare for their service. The TA team is also responsible for workshop materials, marketing, lab space and any additional items that will ensure a successful experience for participants.</p> <p>Workshop topics include Internet Safety, Social Networking, Google Applications and Microsoft Office. Each of the 4 sessions is 4 hours in length and will adequately prepare the team to deliver service in their community. EduTech will issue a RFP for subgrants and will evaluate the grants based on an eight-point rubric. Grants will be awarded and schools will have 12 months to complete their education and technical assistance sessions.</p>	
Year 2	
Yr 2 Estimated Budget Drawdown Amount	\$210,000
Annual Objectives summary	
Develop RFP, release grants, monitor programs	

Year 2, Quarter 1 (Jan 1 – Mar 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
Training Program Ready	-Design coursework
Grants Issued	-RFP developed -RFP Evaluations completed -Awards created
Year 2, Quarter 2 (Apr 1 – Jun 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
TA Team workshops complete	-Hold TA Team workshops across the state
Year 2, Quarter 3 (Jul 1 – Sept 30, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
No major milestones due	-Monitor Sub-awards
Year 2, Quarter 4 (Oct 1 – Dec 31, 2011)	
Primary Milestone(s)	Corresponding Primary Activities
No major milestones due	-Monitor Sub-awards
Year 3	
Yr 3 Estimated Budget Drawdown Amount	\$15,000
Annual Objectives summary	
Completion of project	
Year 3, Quarter 1 (Jan 1 – Mar 31, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
No major milestones due	-Monitor Sub-awards
Year 3, Quarter 2 (Apr 1 – Jun 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
No major milestones due	-Monitor Sub-awards
Year 3, Quarter 3 (Jul 1 – Sept 30, 2012)	
Primary Milestone(s)	Corresponding Primary Activities
Project Closeout	Post Implementation Report

Project Approved in the Amended Award - Budget Year Two	
Project Name	SBDD Program Administration
Estimated Start and End Date (Year and Quarter)	Start: Year 2, Quarter 1 End: Year 5, Quarter 4
Total Federal Award for this Project	\$342,670
Project Status	Not Started
Short Summary	
The state requires the program to have staff dedicated to managing the overall direction of the Broadband Mapping & Planning efforts. This would be a program manager full-time with 75% federal funding and 25% state matching funding.	
Year	
Yr 2 Estimated Budget Drawdown Amount	\$78,525
Yr 3 Estimated Budget Drawdown Amount	\$85,668
Yr 4 Estimated Budget Drawdown Amount	\$85,668
Yr 5 Estimated Budget Drawdown Amount	\$85,668
Yr 6 Estimated Budget Drawdown Amount	\$7,139
Years 2-5	
Primary Milestone(s)	Corresponding Primary Activities
Program meets mandatory requirements	Manage Program
Year 6, Quarter 1 (Jan 1 – Mar 31, 2015)	

Primary Milestone(s)	Corresponding Primary Activities
Program Closeout	-Perform all required closeout activities including mandatory Federal reporting

3.2 Annual Project Outcomes

See the above section for all major milestones.

3.3 Personnel Salary Disclosure

Program Director – To be named; the state has not yet filled this position. Exact salary details will not be determined until the position is filled but it is expected that the total compensation over the 4 years of the program will exceed the \$100,000 limit.

Interim Program Director – Dirk Huggett

Dirk Huggett has acted as the project manager and program director since the program award. He will continue to fulfill that role in a part-time capacity until the state can find a full-time director. The state currently does not expect Mr. Huggett's salary costs to exceed the disclosure amount. The state will track Mr. Huggett's hours applied to the program and bill his compensation costs, plus indirect costs, to the program budget. Mr. Huggett's resume is attached.

Dirk Huggett, PMP
600 E Boulevard Ave, Bismarck, ND 58505
701-328-1998
dhuggett@nd.gov

SKILLS SUMMARY	Senior analyst with extensive experience in customer service & project management. Skilled in communications, help desk management, and process analysis. Excellent background in organization, project management, and building relationships. Experienced in developing long-term strategic objectives.	
EMPLOYMENT	IT Business Analyst-State of North Dakota- Information Technology Department <i>Bismarck, ND</i> Coach apprentices in the state's PM apprenticeship program (NITAS); Developed and performed training in project management topics Managed multiple multimillion dollar telecom projects; Led initial development of state Enterprise Project Management Office; provide input to the strategic EPMO plans; Perform Large Project Oversight on significant state IT projects, including two of the state's current top 5 large projects; Effectively managed several special projects; these included Tax Department Strategic Review, Help Desk Task Force, STAGEnet Infrastructure update and Special Reviews of the ERP Implementation; Developed several enterprise and divisional processes, including initial contract reviews and formal Large Project Oversight processes; Strong communication skills with all levels of management, legislators, and technical personnel; Practices strong facilitation skills to provide leadership and training.	August 2001-Current
	Technical Analyst/Supervisor-Borders Books & Music – Store Systems Support	May 1998-August 2001

Ann Arbor, MI

Managed large project initiations and planning for the upgrade to the Automated Call Distribution system (Telecomm) and the call center Call Tracking System/Knowledgebase;

Analyzed and advised senior staff on call center upgrades, including major system conversions and point-of-sale software/hardware rollouts for 1200 Waldenbooks & Borders stores in the US, UK, Australia, New Zealand, and Singapore.

EDUCATION & CERTIFICATIONS

Project Management Level 3 (2005)

National IT Apprenticeship System (NITAS)

Project Management Professional (PMP) (2005)

Project Management Institute

B.A. in Broadcasting (1993)

Minot State University, ND

A.A.S. in Video Technology (1989)

Video Technical Institute, Los Angeles, CA

COMMUNITY SERVICE

Dakota Stage/Shade Tree Players

Technical Director providing technical expertise and advice in maintaining and managing the theater and equipment; Member of the Artistic Committee; Participated in over 20 productions over the last 5 years as Assistant Director, Technical Director, Light/Sound Design and/or actor.

Dakota West Chapter of National Management Association

Former Chair of Professional Development Committee; former Chair of Awards Committee; former Newsletter Editor for 3 years taking 1st place in national competition for division each year.

3.4 Subrecipient and Vendor Activities

At this time we plan to continue using our original vendor for this project.

NTIA should have the company details of TetraTech on file from the original application. Appendix A is the current draft of the new statement of work (SOW) for the new activities.

4 Appendix A

Scope of Services #3 North Dakota Broadband Mapping

North Dakota
Contact: Dirk Huggett
Broadband Mapping Project Manager
Information Technology Department
State of North Dakota

Tetra Tech
Contact: Fred Gifford
Project Manager
Tetra Tech EC

Date: January 15, 2011

- **Background and Overview**

The state of North Dakota received a State Broadband Data and Development grant in December of 2009 from NTIA to map broadband availability in the State and to develop an online web mapping application to display the results. The work on the original grant was successfully completed in October of 2010. Subsequently North Dakota has been awarded a second round of grant funding from NTIA to support mapping activities through 2014. This SOW addresses Tetra Tech work items covered under this second round of funding.

- **Statement of Work**

CONTRACTOR, in exchange for the compensation paid by STATE under this contract, agrees to provide the following services:

(Note: Prior to the beginning of execution of the items listed below, the CONTRACTOR will work with the STATE to develop a comprehensive project plan and schedule including both the CONTRACTOR's effort and the STATE's effort. This effort may adjust the estimated timelines noted below but is not expected to significantly alter the overall timeline or cost. If significant changes are required, an amendment to this Scope of Services will be pursued.)

Description: CONTRACTOR, in cooperation with the State, will complete all of the tasks as outlined below:

Completion Date: To be defined in the project plan based upon the estimates noted for each.

Acceptance: Upon receipt of each of the deliverables from CONTRACTOR, STATE will have 10 (ten) working days in which to accept or reject it in writing. If STATE rejects it, STATE will specify in writing its grounds for rejection and CONTRACTOR shall use its best efforts to revise the deliverable to make it acceptable to STATE within the following 10 (ten) working days. If STATE rejects it a second time, STATE will have the option of repeating the procedure as described in this acceptance statement above or terminating this agreement upon written notice to CONTRACTOR. Travel expenses related to this work will be handled as described in Section 30 of the contract.

Where applicable, payment will be based upon the deliverable value less 10% retainage. The retainage payment will be made based upon final acceptance as noted in Section 29 of the contract. The table below defines where retainage applies.

Project Tasks

Task Description	Deliverable Name	Deliverable Description	Est. Start	Est. End	Task Totals	Deliverable Value	Retainage (10%)	Payment	Travel Estimate
DATA & DEVELOPMENT									
Task 1 - March 2011 Broadband Map Updates	Task 1 - March 2011 Broadband Map Updates				\$33,250				
Using all public, provider, and direct measurement data collected to date, build project geodatabases and data deliverables to meet all State and NTIA standards and requirements. Broadband availability from all sources will be cross-verified when possible. Where anomalies are noted, further research and/or direct measurements will be performed to rectify data. Mapping and database results will be verified and compared to NTIA and North Dakota broadband mapping standards. Broadband coverage, anchor institution, middle-mile infrastructure, and service summary data products prepared and delivered. This final step will incorporate the final coverage polygons and infrastructure points into the project geodatabase format. The final independent measurements will be updated with final provider submissions and corrections. Deliverable will also include refreshed data for use in State web application.	ND Map Update	Data & application updates for ND Map	2/1/2011	3/25/2011		\$25,250	\$-	\$25,250	\$-
	NTIA Data	Required data for NTIA	3/14/2011	3/25/2011		\$8,000	\$-	\$8,000	
Task 2 - Web Map Update Tool	Task 2 - Web Map Update Tool				\$161,000				
Develop web based mapping tool for updating broadband availability mapping coverage. The tool will allow non-GIS staff to perform updates of geographic and tabular broadband	Requirements Definition	Meet with State staff to review application requirements, core technologies, and deployment strategy.	1/1/2011	1/31/2011		\$8,000	\$800	\$7,200	\$3,000

Task Description	Deliverable Name	Deliverable Description	Est. Start	Est. End	Task Totals	Deliverable Value	Retainage (10%)	Payment	Travel Estimate
information. Expected functionality includes: <ul style="list-style-type: none"> Basic mapping functionality including zoom, query, layer control, measure Add\Modify\Delete provider coverage (technology and speed tier) by census block Add\Modify\Delete provider coverage (technology and speed tier) by drawing coverage area Add\Modify\Delete provider infrastructure features Add\Modify\Delete anchor institutions PDF map generation The application will require authentication by provider. Provider updates will be posted to staging database for review prior to incorporation into production database. Full documentation and training materials will be developed. Two training workshops will be conducted at locations chosen by the State on use of the system. 	Prototype	Develop prototype of application with core functionality. Review with State.	2/1/2011	6/1/2011		\$48,000	\$4,800	\$43,200	
	Application Design\Build	Beta application development.	6/2/2011	10/17/2011		\$64,000	\$6,400	\$57,600	
	Preliminary User Acceptance Testing	State (and internal) testing of application. Application modifications and bug fixes completed.	10/17/2011	10/31/2011		\$8,000	\$800	\$7,200	
	Initial Deployment	Initial deployment and testing on State servers.	11/1/2011	11/11/2011		\$6,000	\$600	\$5,400	
	Final User Acceptance Testing	State (and internal) testing of application. Final application modifications and bug fixes completed.	11/11/2011	12/2/2011		\$6,000	\$600	\$5,400	
	User Training	Conduct training workshops on system use (2)	12/2/2011	1/31/2012		\$12,000	\$1,200	\$10,800	\$6,000
	Final Acceptance	State's Review of final product	1/31/2012	2/10/2012				\$15,200	

Task Description	Deliverable Name	Deliverable Description	Est. Start	Est. End	Task Totals	Deliverable Value	Retainage (10%)	Payment	Travel Estimate
Task 3 - September 2011 Broadband Map Updates	Task 3 - September 2011 Broadband Map Updates				\$33,250				
Using all public, provider, and direct measurement data collected to date, build project geodatabases and data deliverables to meet all State and NTIA standards and requirements. Broadband availability from all sources will be cross-verified when possible. Where anomalies are noted, further research and/or direct measurements will be performed to rectify data. Mapping and database results will be verified and compared to NTIA and North Dakota broadband mapping standards. Broadband coverage, anchor institution, middle-mile infrastructure, and service summary data products prepared and delivered. This final step will incorporate the final coverage polygons and infrastructure points into the project geodatabase format. The final independent measurements will be updated with final provider submissions and corrections. Deliverable will also include refreshed data for use in State web application.	ND Map Update	Data & application updates for ND Map	7/1/2011	9/23/2011		\$25,250	\$0	\$25,250	\$0
	NTIA Data	Required data for NTIA	9/9/2011	9/23/2011		\$8,000	\$0	\$8,000	

Task Description	Deliverable Name	Deliverable Description	Est. Start	Est. End	Task Totals	Deliverable Value	Retainage (10%)	Payment	Travel Estimate
Task 4 - AT&T Update	Task 4 - AT&T Update				\$22,260				
Update wireless coverage to reflect AT&T acquisition of Verizon\Alltel properties and the build out of AT&T wireless service in North Dakota. Tasks will include: <ul style="list-style-type: none"> Contact AT&T to collect new cell tower, facility, and coverage information Where needed research and acquire cell tower and facility information from independent sources Run propagation models for new towers Conduct QA/QC Integrate data into existing broadband coverage 	AT&T Source Data	Copy of source data collected from AT&T	1/1/2011	8/31/2011		\$3,500	\$350	\$3,150	\$0
	AT&T Cell Tower	AT&T Cell Tower locations in GIS database	9/31/2011	10/30/2011		\$6,500	\$650	\$5,850	
	AT&T Coverage	AT&T service areas in GIS database	11/31/2011	12/30/2011		\$12,260	\$1,226	\$11,034	
	Final Acceptance	State's Review of final product	1/2/2012	1/13/2012				\$2,226	
Task 5 - Cell Tower Update	Task 5 - Cell Tower Update				\$45,640				
Gather and verify the most complete cell tower database possible with specific ownership/equipment identified. Work will be completed by through additional research of public sources, such as the ASR database, local government permitting to identify tower sites not required for listing in the FCC database criteria, and ownership tracking on the FCC site. Exploration of maximum likelihood geospatial analysis with wireless signal strength data from	Cell tower source data and references. *	Report with specific references to source data, documents, sites, and field efforts used to develop cell tower database.	10/1/2011	11/30/2011		\$4,500	\$450	\$4,050	\$0
	Intermediate cell tower geodatabase.	GIS database of cell towers found from existing data sources.	10/1/2011	4/30/2012		\$12,600	\$1,260	\$11,340	

Task Description	Deliverable Name	Deliverable Description	Est. Start	Est. End	Task Totals	Deliverable Value	Retainage (10%)	Payment	Travel Estimate
field-collected data will also be utilized. Some elements of this task may be integrated with fieldwork required for direct measurement of wireless data.	Cell tower geodatabase.	GIS database of cell towers from existing data sources and those developed through field investigation. . Database will have appropriate attributes to use for building propagation models by provider.	4/30/2012	11/30/2012		\$28,540	\$2,854	\$25,686	
	Final Acceptance	State's Review of final product	11/30/2012	12/10/2012				\$4,564	
* Travel costs for this task integrated with Task 7 travel.									
Task 6 - March 2012 Data Updates	Task 6 - March 2012 Data Updates				\$88,333				
Using all public, provider, and direct measurement data collected to date, build project geodatabases and data deliverables to meet all State and NTIA standards and requirements. Broadband availability from all sources will be cross-verified when possible. Where anomalies are noted, further research and/or direct measurements will be performed to rectify data. Mapping and database results will be verified and compared to NTIA and North Dakota broadband mapping standards. Broadband coverage, anchor institution,	Provider partial to full datasets	Priority providers for this round include: Dakota Carrier network Invisimax Intercommunity	11/1/2011	2/25/2012		\$42,083	\$0	\$42,083	\$3,000
	ND Map Update	Data & application updates for ND Map	2/1/2012	3/25/2012		\$35,250	\$0	\$35,250	

Task Description	Deliverable Name	Deliverable Description	Est. Start	Est. End	Task Totals	Deliverable Value	Retainage (10%)	Payment	Travel Estimate
middle-mile infrastructure, and service summary data products prepared and delivered. This final step will incorporate the final coverage polygons and infrastructure points into the project geodatabase format. The final independent measurements will be updated with final provider submissions and corrections. Deliverable will also include refreshed data for use in State web application. Will include focused providers updates (1,2,3). Providers will be targeted for focused, detailed update of coverage and facilities. Work will be accomplished through direct meetings and web and GIS enabled conference calls. For these providers every effort will be made to identify and remove impediments to full project participation. Focus will be on making it as easy as possible for the providers to provide mapping information and identifying outputs that provide value to them if they participate more fully.	NTIA Data	Required data for NTIA	3/14/2012	3/25/2012		\$8,000	\$0	\$8,000	
Task 7 - Direct Measurement of Wireless Availability	Task 7 - Direct Measurement of Wireless Availability				\$166,320				
Conducted a direct measurement mapping effort using GPS enabled cell phones. Areas throughout the State will be driven (at least 4000 miles). Driving routes will be optimized to collect data in areas of uncertainty or where new	Raw direct measurement data	Direct measurement data produced from field units.	1/1/2012	7/1/2012		\$135,920	\$13,592	\$122,328	\$12,400

Task Description	Deliverable Name	Deliverable Description	Est. Start	Est. End	Task Totals	Deliverable Value	Retainage (10%)	Payment	Travel Estimate
construction of cell towers has taken place. Data collected will include data transmission speeds and signal strength by provider\technology. In some cases field crews will also map and verify cell tower locations.	GIS database of processed direct measurement data.	GIS database of direct measurement data for use in verification of propagation models and provider defined coverage areas.	7/1/2012	9/30/2012		\$18,000	\$1,800	\$16,200	
	Final Acceptance	State's Review of final product	9/30/2012	10/10/2012				\$15,392	
Task 8 - September 2012 Data Updates	Task 8 - September 2012 Data Updates				\$88,333				
Using all public, provider, and direct measurement data collected to date, build project geodatabases and data deliverables to meet all State and NTIA standards and requirements. Broadband availability from all sources will be cross-verified when possible. Where anomalies are noted, further research and/or direct measurements will be performed to rectify data. Mapping and database results will be verified and compared to NTIA and North Dakota broadband mapping standards. Broadband coverage, anchor institution, middle-mile infrastructure, and service summary data products prepared and delivered. This final step will incorporate the final coverage polygons and infrastructure points into the project geodatabase format. The final independent measurements will be updated with final provider submissions and corrections. Deliverable will also include refreshed data for use in State web application. Will include focused providers updates (4,5,6). Providers will be targeted for focused, detailed update of coverage	Provider partial to full datasets	Priority providers for this round include: MidContinent Reservation Turtle Mountain / United Telephone Mutual Aid	5/1/2012	8/23/2012		\$42,083	\$0	\$42,083	\$3,000
	ND Map Update	Data & application updates for ND Map	7/1/2012	9/23/2012		\$35,250	\$0	\$35,250	
	NTIA Data	Required data for NTIA	9/9/2012	9/23/2012		\$8,000	\$0	\$8,000	

Task Description	Deliverable Name	Deliverable Description	Est. Start	Est. End	Task Totals	Deliverable Value	Retainage (10%)	Payment	Travel Estimate
and facilities. Work will be accomplished through direct meetings and web and GIS enabled conference calls. For these providers every effort will be made to identify and remove impediments to full project participation. Focus will be on making it as easy as possible for the providers to provide mapping information and identifying outputs that provide value to them if they participate more fully.									
Task 9 - March 2013 Data Updates	Task 9 - March 2013 Data Updates				\$88,333				
Using all public, provider, and direct measurement data collected to date, build project geodatabases and data deliverables to meet all State and NTIA standards and requirements. Broadband availability from all sources will be cross-verified when possible. Where anomalies are noted, further research and/or direct measurements will be performed to rectify data. Mapping and database results will be verified and compared to NTIA and North Dakota broadband mapping standards. Broadband coverage, anchor institution, middle-mile infrastructure, and service summary data products prepared and delivered. This final step will incorporate the final coverage polygons and infrastructure points into the project geodatabase format. The final independent measurements will be updated with final provider submissions and corrections. Deliverable will also include refreshed data for use in State web application.	Provider partial to full datasets	Priority providers for this round include: Halstead Midstate ATT Moore,Liberty,Griggs Group	11/1/2011	2/25/2012		\$42,083	\$0	\$42,083	\$3,000
	ND Map Update	Data & application updates for ND Map	2/1/2012	3/25/2012		\$35,250	\$0	\$35,250	
	NTIA Data	Required data for NTIA	3/14/2012	3/25/2012		\$8,000	\$0	\$8,000	

Task Description	Deliverable Name	Deliverable Description	Est. Start	Est. End	Task Totals	Deliverable Value	Retainage (10%)	Payment	Travel Estimate
Will include focused providers updates (7,8,9,10). Providers will be targeted for focused, detailed update of coverage and facilities. Work will be accomplished through direct meetings and web and GIS enabled conference calls. For these providers every effort will be made to identify and remove impediments to full project participation. Focus will be on making it as easy as possible for the providers to provide mapping information and identifying outputs that provide value to them if they participate more fully.									
		Subtotals			\$726,719	\$696,319	\$37,382	\$658,937	\$30,400
						Product SubTotal		\$726,719	
						Travel Estimate		\$30,400	
						Project Total		\$757,119	

CONTRACTOR NAME <i>Tetra Tech EC, Inc.</i>
ADDRESS <i>19803 North Creek Parkway</i> <i>Bothell, WA 98011</i>
SIGNATURE
TITLE
DATE

STATE OF NORTH DAKOTA acting through its Information Technology Department
ADDRESS <i>600 E Boulevard Ave, Dept. 112</i> <i>Bismarck, ND 58505-0100</i>
SIGNATURE
TITLE
DATE